

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

EVOLVED WIRELESS, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 15-542 JFB-SRF
	)	
APPLE INC.,	)	REDACTED - PUBLIC VERSION
	)	Original Filing Date: December 8, 2017
Defendant.	)	Redacted Filing Date: December 15, 2017
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EVOLVED WIRELESS, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 15-543 JFB-SRF
	)	
HTC CORPORATION and	)	REDACTED - PUBLIC VERSION
HTC AMERICA, INC.,	)	Original Filing Date: December 8, 2017
	)	Redacted Filing Date: December 15, 2017
Defendants.	)	
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EVOLVED WIRELESS, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 15-544 JFB-SRF
	)	
LENOVO GROUP LTD.,	)	REDACTED - PUBLIC VERSION
LENOVO (UNITED STATES) INC., and	)	Original Filing Date: December 8, 2017
MOTOROLA MOBILITY,	)	Redacted Filing Date: December 15, 2017
	)	
Defendants.	)	
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EVOLVED WIRELESS, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 15-545 JFB-SRF
	)	
SAMSUNG ELECTRONICS CO., LTD.	)	REDACTED - PUBLIC VERSION
and SAMSUNG ELECTRONICS	)	Original Filing Date: December 8, 2017
AMERICA, INC.,	)	Redacted Filing Date: December 15, 2017
	)	
Defendants.	)	

EVOLVED WIRELESS, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 15-546 JFB-SRF
	)	
ZTE CORPORATION, ZTE (USA) INC.,	)	REDACTED - PUBLIC VERSION
and ZTE SOLUTIONS INC.,	)	Original Filing Date: December 8, 2017
	)	Redacted Filing Date: December 15, 2017
	)	
Defendants.	)	

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EVOLVED WIRELESS, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 15-547 JFB-SRF
	)	
MICROSOFT CORPORATION,	)	REDACTED - PUBLIC VERSION
MICROSOFT MOBILE OY and	)	Original Filing Date: December 8, 2017
NOKIA INC.,	)	Redacted Filing Date: December 15, 2017
	)	
Defendants.	)	

**DEFENDANTS' MOTION TO EXCLUDE TESTIMONY  
OF DR. PUTNAM PURSUANT TO FED. R. EVID. 702**

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## INTRODUCTION

Evolved's damages expert Dr. Jonathan Putnam opines that FRAND royalties for the '373 patent and '236 patent are 22.9 and 1.7 cents per device, respectively. Dr. Putnam's methodology producing those royalties is unreliable and should not be presented to the jury.

First, Dr. Putnam generates those per-patent royalties by purportedly performing a "citation analysis" to determine the relative value of the '373 and '236 patents as compared to all other declared-essential LTE patents. Dr. Putnam's stated methodology was to compare the number of times Evolved's patents are cited by other patents to the number of times other declared-essential LTE patents are cited. According to Dr. Putnam, declared-essential LTE patents that are more highly-cited are more valuable. But Dr. Putnam's "citation analysis" is fatally flawed—he did not actually do what he said he was doing. Instead, he relied on an error-filled database that in fact included hundreds of patents having nothing whatsoever to do with LTE. Dr. Putnam's results quickly confirm that his "citation analysis" based on this error-filled database is completely unreliable. For instance, under Dr. Putnam's methodology, this patent regarding a system and method for endoscopic surgery is the *highest-scoring* declared-essential LTE patent, and would command the highest FRAND royalty rate:

<b>United States Patent</b> [19] <b>Funda et al.</b>	<div style="text-align: left; font-size: small;">US005417210A</div> <b>[11] Patent Number: 5,417,210</b> <b>[45] Date of Patent: May 23, 1995</b>
<b>[54] SYSTEM AND METHOD FOR AUGMENTATION OF ENDOSCOPIC SURGERY</b>	<div style="font-size: small;">for High-Accuracy 3D Machine Vision Metrology Using . . . ", IEEE Journal of Robotics and Automation, pp. 323–344, 1987.</div>

But, of course, this endoscopic surgery patent has nothing to do with LTE. Dr. Putnam admitted that his analysis would provide useful results *only if* he compared citations to Evolved's patents with citations to other declared-essential LTE patents. He did not. Thus, by his own admission, his results are unreliable and are useless to any royalty calculation. Even if "citation analysis"



were an appropriate method to determine a FRAND royalty in this case, Dr. Putnam's 22.9 and 1.7 cent royalties are based on erroneous inputs and should be excluded as unreliable.

Second, Dr. Putnam's analysis does not comport with Federal Circuit precedent governing a reasonable royalty calculation. Dr. Putnam starts his "top-down" approach by performing a regression analysis that he claims shows the premium that consumers pay per LTE handset over 3G handsets—what he calls the "LTE premium." This "top line value," as Dr. Putnam calls it, however, does not apportion out the value of the patented inventions of the '373 and '236 patents and the unpatented features of the accused products. Dr. Putnam plainly admits that the entire market value rule, a very narrow exception to the principle that reasonable royalties must be apportioned to the patented feature rather than the entire market value of an accused product, does not apply. Yet he still bases his royalty on the entire accused LTE device. Dr. Putnam also fails to account for the incremental value of the '373 and '236 patents separate and apart from their alleged adoption in the LTE standard, contrary to Federal Circuit precedent.

Third, after arriving at his "LTE premium," Dr. Putnam applies a general rule of thumb—the Nash Bargaining Solution—to divide the "LTE premium" 50/50 between patent holders and implementers of the standard. This arbitrary 50/50 split violates established Federal Circuit damages law, and should be excluded.

### **LEGAL STANDARD**

Fed. R. Evid. 702 requires expert testimony to be (1) based on sufficient facts or data; (2) the product of reliable principles and methods; and (3) the result of applying the principles and methods reliably to the facts of the case. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 591-92 (1993). The proponent of expert testimony bears the burden of establishing by a preponderance of the evidence that the admissibility requirements are met. *See* Fed. R. Evid. 702, Advisory Committee Notes. The district court must act as a "gatekeeper" to

exclude expert testimony that “is irrelevant or does not result from the application of reliable methodologies or theories to the facts of the case.” *Micro Chem., Inc. v. Lextron, Inc.*, 317 F.3d 1387, 1391 (Fed. Cir. 2003). *See Commonwealth Sci. & Indus. Research Org. (“CSIRO”) v. Cisco Sys., Inc.*, 809 F.3d 1295, 1301 (Fed. Cir. 2015) (“[G]iven the great financial incentive parties have to exploit the inherent imprecision in patent valuation, courts must be proactive to ensure that the testimony presented—using whatever methodology—is sufficiently reliable to support a damages award.”).

In patent cases, reasonable royalty calculations must be based on sound economic principles and reliable data, and an expert’s damages calculation is inadmissible if any part of the calculation is unsupported or contrary to law. *See, e.g., LaserDynamics, Inc. v. Quanta Comput., Inc.*, 694 F.3d 51, 67-69 (Fed. Cir. 2012); *Whitserve, LLC v. Comput. Packages, Inc.*, 694 F.3d 10, 31 (Fed. Cir. 2012); *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1314-21 (Fed. Cir. 2011); *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 868 (Fed. Cir. 2010). “[D]amages awarded for patent infringement ‘must reflect the value attributable to the infringing features of the product, and no more.’” *CSIRO*, 809 F.3d at 1301 (quoting *Ericsson, Inc. v. D-Link Sys.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014)); *see VirnetX, Inc. v. Cisco Sys.*, 767 F.3d 1308, 1326-27 (Fed. Cir. 2014).

## BACKGROUND

Dr. Putnam’s damages methodology in this case proposes a per-device royalty rate for each of the two asserted patents, applied to each defendants’ sales of accused devices. Dr. Putnam determined those two royalty rates through the following process:

- Dr. Putnam starts with a general database of purportedly historical cellular device price information, and performs a regression analysis that he claims shows an “LTE premium” of

\$84.40 per device that consumers pay per LTE handset over 3G handsets. Ex. A (Putnam Rpt.)<sup>1</sup> ¶ 19.

- Dr. Putnam then, using the Nash Bargaining Solution—a “rule of thumb”—divides this LTE premium 50%-50% between “innovators and implementers,” assigning \$42.20 per unit to patent holders. Ex. A ¶ 20.
- Based on his computation that only 38.5% of 3,540 declared essential LTE patent families (1,364) are actually essential, Dr. Putnam divides the \$42.20 across 1,364 patent families to obtain a \$0.031 per patent family figure. Ex. B (Putnam Rpt. Ex. 3).
- Dr. Putnam purports to rank all declared-essential LTE patents based on analysis of the number of times each patent has been cited by other patents, to determine a “quality weight” for each declared-essential patent. Ex. A at Tech. App’x 131-137.
- Finally, for Evolved’s ’373 and ’236 patents, Dr. Putnam multiplies this “quality weight” by \$0.031 to obtain per-unit royalties of \$0.229 and \$0.017, respectively. Ex. D (Putnam Rpt. Ex. 4) at col. [10].

## ARGUMENT

### **I. DR. PUTNAM’S UNRELIABLE “CITATION ANALYSIS” SHOULD BE EXCLUDED.**

#### **A. Dr. Putnam’s “Citation Analysis” Method**

Through the initial steps of his damages methodology, Dr. Putnam claims to identify a \$42.40 per-unit “LTE premium” to award as royalties to the owners of LTE standard-essential patents. Dr. Putnam attempted to differentiate those patents by how frequently they

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<sup>1</sup> Dr. Putnam’s damages expert reports served on the various defendants do not appear to differ in any manner relevant to the issues presented in this motion. For the sake of simplicity, all citations to Dr. Putnam’s report are to the version served on Microsoft, which is attached as Exhibit A.

were cited by other patents. As Dr. Putnam explains, he was “dividing up a pie” of \$42.40, and rather than give every patent owner the same-sized piece, he determined “the size of the individual slice” using the citation counts for each patent, adjusted for the age of that patent. Ex. C (Putnam Microsoft Tr.) 90:10-91:21.

To perform his “citation analysis,” Dr. Putnam claimed to identify a set of patents declared essential to the LTE standard which would allow him to compare the citation counts for the two patents-in-suit to the citation counts for all other declared LTE standard-essential patents:

You’re trying to find the rank of the Evolved patents within the set of patents that create the value of LTE technology. So if a patent doesn’t create the value of LTE technology, there’s no point in analyzing it. And if it’s unrelated to LTE, then the factors that generate citations for that patent may be different from the factors that generate citations for LTE, so it could receive a higher or lower score and its ranking would not mean anything because a highly cited automobile patent, A, is irrelevant to LTE, and, B, may be highly cited for reasons that give it an unfair advantage or disadvantage relative to LTE. So it wouldn’t be a proper comparison.

Ex. C at 100:1-17. Dr. Putnam obtained a set of 3,540 patents for this analysis from a company called iPlytics, which he described as “a company that analyzes disclosures to a wide variety of technical standards.” Ex. C at 103:2-9. Dr. Putnam testified that he believed iPlytics’ database was reliable because it was “widely cited” and run by someone with a Ph.D., and confirmed he relied on it for his report. Ex. C at 103:10-24. Dr. Putnam called iPlytics “the best source of disclosed essential patents,” and assumed that all of the 3,540 patents iPlytics identified were declared essential to LTE. Ex. C at 113:3-5, 113:12-19. Dr. Putnam then determined how many times each patent in the iPlytics set had been cited by other patents, and computed an expected number of citations for a generic declared-essential LTE patent based on its date of issuance. Ex.

C at 106:10-18. Dr. Putnam's expected citations computation has "baked into it" that the patents in question were declared essential to LTE. Ex. C at 111:17-21.

Dr. Putnam then divided the actual number of citations to a particular patent by its expected citations, computing a score for each patent. Ex. D at col. [2]-[4]. Patents with many more citations than expected thus receive higher scores. Dr. Putnam then ranked all 3,540 patents by score, and converted the two Evolved patents' percentile rank into "quality score" multipliers. Ex. D at col. [5]-[7]. Multiplying those "quality scores" by his average \$0.031 royalty resulted in per-unit royalties of \$0.229 for the '373 patent and \$0.017 for the '236 patent. Ex. D at col. [10].<sup>2</sup>

**B. The Database of Declared Essential Patents Dr. Putnam Relied on Is Riddled with Errors.**

To determine a relative score for Evolved's two patents, Dr. Putnam ranked all 3,540 *supposedly* declared-essential LTE patents iPlytics provided by their citation counts. But the iPlytics database is populated with patents having no connection to LTE. Based on Dr. Putnam's "citation analysis," the highest scoring patent in the iPlytics database is U.S. 5,417,210, titled "System and Method for Augmentation of Endoscopic Surgery." Ex. E ('210 patent), Ex. C at 97:1-7, 115:16-19, 116:6-8. This patent has nothing to do with LTE or cellular communications. And Dr. Putnam admitted that under his methodology, the '210 endoscopic surgery patent scored 10 times higher than Evolved's highest-ranked patent. Ex. C at 114:5-10.

Dr. Putnam's second highest-ranking patent is U.S. 6,303,238, titled "OLEDs Doped with Phosphorescent Compounds." Ex. F ('238 Patent); Ex. C at 119:6-13. OLEDs are

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<sup>2</sup> Dr. Putnam offers several alternative royalty calculations in Exhibit 4 to his report, but all use his "citation analysis" as an input. For avoidance of doubt, all royalties in Exhibit 4 based on Dr. Putnam's "citation analysis" are unreliable and should be excluded—not just the 22.9 and 1.7 cent royalties. Dr. Putnam never opined as to a royalty for Evolved's patents other than those based on his "citation analysis." Given the procedural status of the case, he cannot do so now.

organic light-emitting diodes, and again this patent has nothing to do with LTE. Similarly, Dr. Putnam's 5th, 7th, and 8th highest-ranked are U.S. 6,656,177 ("Electrosurgical Systems and Techniques for Sealing Tissue"); U.S. 7,162,303 ("Renal Nerve Simulation Method and Apparatus for Treatment of Patients"), and U.S. 6,241,762 ("Expandable Medical Device with Ductile Hinges"). Exs. G ('177 Patent), H ('303 Patent), I ('762 Patent); *see* Ex. C at 120:13-19, 122:10-22, 125:5-15. These are patents in medical fields, and have nothing to do with wireless communications. In total, 5 out of Dr. Putnam's top 10 highest-valued patents have nothing to do with LTE. That fact alone confirms that Dr. Putnam's "citation analysis" based on the iPlytics database is an unreliable methodology for determining the relative value of patents declared essential to LTE.

The errors in the iPlytics database are not limited to those patents in Dr. Putnam's top ten. Patents with no connection to LTE appear throughout the database and thus throughout his rankings. For example, Dr. Putnam's 49th highest-ranked patent is a 1963 herbicide patent issued to DuPont, and was provided to Dr. Putnam by iPlytics as a declared essential LTE patent. Ex. J ('342 Patent); Ex. C at 128:8-20. The LTE standard concerns cellular communications and was developed in the 2000s. This patent cannot possibly be legitimately declared essential to LTE. As another example, Dr. Putnam ranked Evolved's '373 patent as the 77th-most valuable declared essential LTE patent. Dr. Putnam ranked U.S. 7,105,000 ("Surgical Jaw Assembly with Increased Mechanical Advantage") at 70, slightly higher than the '373 patent, and U.S. 6,237,355 ("Precooled Cryogenic Ablation System") at 79, slightly lower than the '373 patent. Ex. K (Putnam Microsoft Dep. Ex. 14) at 1-2; Ex. C at 130:7-131:4. A methodology ranking Evolved's supposedly most valuable LTE patent as comparable to these medical device patents is facially unreliable. As Dr. Putnam himself stated, his "citation analysis" *will not work* if he

compares the number of times Evolved's patents are cited against citations to patents in unrelated fields. *See* Ex. C at 100:1-17. Dr. Putnam's analysis and methodology are fatally flawed, and his attempt to divide up the \$42 he awarded to LTE patent owners is inherently unreliable.

**C. Dr. Putnam's Attempts to Defend his Reliance on Erroneous iPlytics Data Fail.**

Dr. Putnam never checked whether the patents he ranked so highly were actually declared essential LTE patents—he saw these obviously non-LTE patents for the first time at his deposition. Ex. C at 144:25-145:7, 153:14-25. When confronted with them, Dr. Putnam first claimed that if he had eliminated these patents from his methodology, Evolved's patents might rank even higher. Ex. C at 124:18-24. But Dr. Putnam had already admitted that his citation analysis methodology would not work *at all* if he compared Evolved's patents to non-LTE patents. Ex. C at 100:1-17. This is the only comparison he performed and disclosed in his report. Even if eliminating all non-LTE patents could have fixed Dr. Putnam's methodology (and it could not have), Dr. Putnam did not do that work, and he cannot do so now. Further, Dr. Putnam conceded that if he started to remove these obvious non-LTE patents, he did not know how Evolved's patent's rankings (and their corresponding royalties) would change. Ex. C at 144:15-24.

In any event, Dr. Putnam was wrong when he guessed that the non-LTE patents he relied on all ranked higher than the Evolved patents—many more non-LTE patents appear throughout Dr. Putnam's ranked results. The following table sets out Dr. Putnam's rankings for some additional, exemplary patents from iPlytics—all of which Dr. Putnam's methodology assumed were declared essential to LTE:

Rank	Patent No.	Title
188	5,415,880	Fruit Flavored Chewing Gum with Prolonged Flavor Intensity
202	7,044,896	Exercise Device Including Adjustable, Inelastic Straps

419	5,206,228	Control of Arthropod Pests with Phosphorus Acid and Non-Esters and Salts Thereof
583	3,560,204	Printing by Electrical Attraction of Inks
718	7,704,183	Outboard Motor
765	6,675,734	Spiral Formed Flexible Fluid Containment Vessel
909	8,590,972	Seat Recliner and Seat Having the Same
977	7,569,979	Spark Plug Having Spark Portion Provided with a Base Material and a Protective Material
1096	7,915,200	2-(2-Fluoro-Substituted Phenyl)-6-Amino-5-Chloro-4-Pyrimidinecarboxylates and Their Use as Herbicides
1098	5,195,221	Slider with Yoke for Slide Fastener and Its Joining Method
1326	7,681,717	Conveyer Belt with Attached Strips of Teeth
1404	5,386,440	Boiling Water Reactor
1487	5,129,526	Newspaper Container and Bundler
1806	7,874,959	Collapsible Athletic Training Ladder
1808	7,878,702	Baby Food Maker
1831	8,143,736	Conversion of Ocean Wave Energy into Electrical Power
1867	6,423,049	Disposable Diaper with Mechanical Fastening Members
1968	7,479,067	Golf Marker and Method of Use
2004	7,426,813	Floral Easel
2299	7,790,173	Pharmaceutical Compound Capable of Induce Immune Protective Response against Dengue Virus Having the Capsid Protein of the Dengue Virus
2301	7,794,592	Wastewater Disinfection Apparatus and Methods
2485	8,152,329	Solar Table Lamp and Solar Flashlight Combination
2517	8,116,423	Nuclear Reactor (Alternatives) Fuel Assembly of Seed-Blanket Subassemblies for Nuclear Reactor (Alternatives), and Fuel Element for Fuel Assembly
2571	7,814,680	Overshoe Unit for Indoor Use
2674	7,373,895	Inflatable Boat
3471	8,869,316	Articulated Body Armour

Ex. K at 4-5, 7-20, 23-27, 29, 31, 34, 36, 43; Ex. C at 131:11-132:3, 132:19-134:22, 136:4-25, 137:1-11, 145:16-146:21, 147:3-15, 148:1-149:3, 149: 8-11, 149:20-23, 150:4-7, 151:8-11. Dr. Putnam's royalties for the Evolved patents are determined by where Evolved's patents rank in terms of citation counts as compared to these iPlytics patents. For example, Evolved's '236 patent ranked at 1090 in Dr. Putnam's methodology—lower than the '979 spark plug patent, the same score as the '200 herbicide patent, and slightly higher than the '221 zipper patent. Ex. C at 134:32-135:1, 136:10-18, 137:1-11. And the table above includes only a few of the iPlytics



patents—in his analysis Dr. Putnam ranked more than 500 patents that based on their titles alone are obviously not LTE patents. *See* Ex. L.

Dr. Putnam also attempted to deflect the errors in the iPlytics database he relied on by claiming that his assumption that only 38.5% of declared essential LTE patents are actually essential accounts for the possibility that the iPlytics database might contain non-LTE patents. *E.g.*, Ex. C at 140:18-141:14. However, the 38.5% assumption has nothing to do with the errors in the iPlytics database. Dr. Putnam derived his 38.5% assumption from studies by “technical experts,” who analyzed patents declared essential by specific large tech companies. Ex. A at Tech. App’x 127-130.<sup>3</sup> Dr. Putnam explained that these studies “compare the language of the claims to the language of the standard and determine whether the patents appears to cover the standard,” and in so doing “apply the definition of essentiality found in the ETSI IPR policy.” (Tr. 105:20-106:6.)

Dr. Putnam uses the results of those studies to attempt to determine “firm level probabilities”—that is, the probability that a declared essential patent from a particular technology firm (for example, Ericsson) is actually essential to practice the LTE standard. Ex. A at Tech. App’x 127-130; Ex. M (Putnam Rpt. Ex. 14.1); Ex. N (Putnam Rpt. Ex. 15). Dr. Putnam derived the 38.5% figure from the set of purportedly firm level probabilities across these different studies. Ex. A at Tech. App’x at 129-130; Ex. O (Putnam Rpt. Ex. 12). Accordingly, the 38.5% essentiality assumption is based on a study of the patents declared essential by specific tech companies who work in wireless communications—*e.g.*, Nokia, Qualcomm, Phillips, RIM. *See* Ex. N, Ex. P (Putnam Rpt. Ex. 12 Sched. A). Dr. Putnam’s assumption is that only 38.5% of

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<sup>3</sup> Though Dr. Putnam’s report suggests otherwise, Ex. A ¶ 179, several of these studies did not in fact analyze declared-essential patents. For example, at his deposition, Dr. Putnam agreed that the “seminal” patents analyzed in the iRunway reports were “not the same thing as a declared essential patent.” Ex. T (Putnam Samsung Tr.) at 164:1-6.

the patents declared essential by *wireless communications firms* are actually essential. The problem with the iPlytics database is not that perhaps only some of the patents obtained by tech companies in the database are actually essential, but rather that iPlytics database upon which Dr. Putnam relied contains patents from (among many others) Wrigley, Dow AgroSciences, Rubbermaid, Nike, and a biotech center in Havana, Cuba, relating to chewing gum, herbicides, containers, athletic equipment, and a treatment for Dengue Fever. Dr. Putnam never did any analysis to account for these errors in the iPlytics database. In fact, he was not even aware of them until his deposition.

**D. Dr. Putnam's Reliance on iPlytics Renders His Citation Analysis Unreliable.**

Dr. Putnam's "citation analysis" methodology of valuing declared-essential LTE patents concludes that five of the highest-scoring patents are patents that have no connection to LTE whatsoever. That result establishes his methodology as unreliable. Dr. Putnam agreed that "in order for [his] method to work," his set of 3,540 patents "has to be a set of declared LTE patents." Ex. C at 112:13-20 ("[T]hat's the only relevant set of patents for which we can obtain a ranking,"). Dr. Putnam needed accurate inputs to his method, because he could only compare Evolved's declared essential LTE patents to other declared essential LTE patents. He explained that for a patent "unrelated to LTE," "the factors that generate citations for that patent may be different from the factors that generate citations for LTE, so it could receive a higher or lower score and its ranking would not mean anything." *Id.* Dr. Putnam explained that a highly-cited patent in a different field "is irrelevant to LTE" and "may be highly cited for reasons that give it an unfair advantage or disadvantage relative to LTE," so ranking such patents against Evolved's patents "wouldn't be a proper comparison." *Id.*

Yet that is exactly what Dr. Putnam did. In Dr. Putnam's own words, his rankings do "not mean anything" because he compared Evolved's patents to large numbers of irrelevant

patents with no connection to LTE. These flawed rankings directly determine the multiplier for each Evolved patent relative to Dr. Putnam's average royalty of \$0.031, resulting in his royalties of \$0.229 and \$0.017 for the two Evolved patents. Ex. C at 112:5-13. Those royalties are directly computed from his unreliable "citation analysis." Regardless of whether in other circumstances, some form of "citation analysis" might be appropriate—and if it were properly performed on reliable inputs—what Dr. Putnam did here is unreliable and inadmissible under Rule 702. The results of Dr. Putnam's methodology cannot be presented to a jury.

## **II. DR. PUTNAM'S "TOP-DOWN" DAMAGES APPROACH VIOLATES THE BASIC TENETS OF CALCULATING A REASONABLE ROYALTY.**

In each of these six cases, Dr. Putnam starts with the same general database of cellular device prices to perform a regression analysis that he claims shows the premium that consumers pay per LTE handset over 3G handsets—what he calls the "LTE premium." He calculates this "industry average incremental value of LTE per handset" to be \$84.40. This "top line value," as Dr. Putnam calls it, however, does not apportion between the purported inventions of the '373 and '236 patents and the unpatented features, and does not account for the incremental value (if any) of the '373 and '236 patents separate and apart from their alleged adoption in the LTE standard.

### **A. Dr. Putnam Does Not Apportion the Features of the '236 and '373 Patents from the Unpatented Features of Defendants' Accused Devices.**

By statute, reasonable royalty damages are based on "the minimum amount of infringement damages "adequate to compensate for the infringement." 35 U.S.C. § 284. Such damages must be awarded "for the use made of the invention by the infringer." *Id.* Under § 284, damages awarded for patent infringement "must reflect the value attributable to the infringing features of the product, and no more." *Ericsson*, 773 F.3d at 1226. When determining what portion of profits are properly attributable to a patented feature, "the patentee . . . must in every

case give evidence tending to separate or apportion the defendant's profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative.” *LaserDynamics*, 694 F.3d at 67 (quoting *Garretson v. Clark*, 111 U.S. 120, 121 (1884)). The cases make clear the burden lies with “the patentee . . . [to] give evidence tending to separate or apportion the defendant's profits” in its damages calculation. *Id.* at 67 (citation and internal quotation marks omitted).

Where, as here, small elements of multi-component products are accused of infringement, the entire product is not an appropriate royalty base, especially when the product contains many other components (e.g., cameras, displays, sensor chips, Wi-Fi chips, GPS chips, etc.). Instead, the damages focus should shift at least to the smallest salable patent-practicing unit (“SSPPU”) within the larger product. *Id.*; see also *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 283, 287-88 (N.D.N.Y. 2009) (explaining that “counsel would have wisely abandoned a royalty base claim encompassing a product with significant non-infringing components. The logical and readily available alternative was the smallest salable infringing unit with close relation to the claimed invention—namely the processor itself.”). The Federal Circuit has provided two justifications for this principle. First, “[w]here small elements of multi-component products are accused of infringement, calculating a royalty on the entire product carries a considerable risk that the patentee will be improperly compensated for non-infringing components of that product.” *LaserDynamics*, 694 F.3d at 67; see also *Garretson*, 111 U.S. at 121 (“[The patentee] must separate [the patented improvement's] results distinctly from those of the other parts, so that the benefits derived from it may be distinctly seen and appreciated.”). Second is the “important evidentiary principle” that “care must be taken to avoid misleading the jury by placing undue emphasis on the value of the entire product.” *Ericsson*, 773 F.3d at 1226.

Disclosure of the end product's total revenue "cannot help but skew the damages horizon for the jury, regardless of the contribution of the patented component to this revenue." *Uniloc*, 632 F.3d at 1320.

**B. As Dr. Putnam Admits, the Entire Market Value Rule Does Not Apply to His "Top-Down" Approach.**

Under the entire market value rule, "[i]f it can be shown that the patented feature *drives the demand for an entire multi-component product*, a patentee may be awarded damages as a percentage of revenues or profits attributable to the entire product." *LaserDynamics*, 694 F.3d at 67 (citation omitted) (emphasis added). In "any case involving multicomponent products, patentees may not calculate damages based on sales of the entire product ... without showing that the demand for the entire product is attributable to the patented feature." *Id.* at 67-68. In effect, the entire market value rule acts as a check to ensure that the royalty damages being sought under 35 U.S.C. § 284 are in fact "reasonable" in light of the technology at issue. The Federal Circuit has emphasized that this rule may not be avoided by the use of a very small royalty rate." *Id.* at 67 ("Admission of such overall revenues, which have no demonstrated correlation to the value of the patented feature alone, only serve to make a patentee's proffered damages amount appear modest by comparison, and to artificially inflate the jury's damages calculation beyond that which is 'adequate to compensate for the infringement.'"); *see also Uniloc*, 632 F.3d at 1320 (noting that "the \$19 billion cat was never put back into the bag," and that neither cross-examination nor a curative jury instruction could have offset the resulting unfair prejudice).

It cannot be disputed that the entire market value rule is not satisfied in these cases: there is no evidence that the inventions of the '373 and '236 Patents drive demand for any of Defendants' accused devices. Dr. Putnam does not provide any opinion to the contrary.

Indeed, when specifically asked whether the patents-in-suit drive demand for any mobile devices, Dr. Putnam responded that he has “no opinions about what it means to drive demand in this context.” Ex. Q (Putnam Apple Tr.) at 146:10-16. In his reports, Dr. Putnam does not cite to evidence showing that the inventions of the patents-in-suit have any effect whatsoever on the sales of Defendants’ accused devices. At best, Dr. Putnam offers thinly-supported testimony regarding the purported relative benefits to LTE of the inventions of the ’373 and ’236 Patents as compared to other patents declared essential to the LTE standard. Ex. A ¶¶ 182-84, n. 168. He also provides general testimony regarding the importance of LTE generally to Defendants’ accused devices. *E.g.*, Ex. A ¶ 62 & n.47, Ex. Q at 134:23-25. But this falls woefully short of what is required for the entire market value rule to apply in this case, where the accused products are feature-rich smartphones. The Federal Circuit has made clear in that it is not enough to merely show that patented inventions, or even LTE, are important to Defendants’ accused devices. *LaserDynamics*, 694 F.3d at 68 (“It is not enough to merely show that the disc discrimination method is viewed as valuable, important, or even essential to the use of the laptop computer. Nor is it enough to show that a laptop computer without an ODD practicing the disc discrimination method would be commercially unviable.”). The relevant inquiry is whether the presence of the patented features is what motivates consumers to buy Defendants’ accused devices in the first place. *Id.* Dr. Putnam does not contend that they do. Thus, the entire market value rule cannot apply.

**C. Although the Entire Market Value Rule Does Not Apply, Dr. Putnam Nevertheless Rejects the Use of the SSPPU.**

Although the facts of these cases do not support the entire market value rule, Dr. Putnam nonetheless refuses to reduce his proposed damages base even to the SSPPU (here the baseband chipset), instead starting his analysis for each Defendant with the cost of the LTE

handset device. This, by definition, is an application of the entire market value rule. *LaserDynamics*, 694 F.3d at 67. Dr. Putnam acknowledges the concept of attempting to apportion using the SSPPU, but claims that the SSPPU does not apply to these circumstances of these cases. Ex. A ¶¶ 168-70. Dr. Putnam offers various reasons for rejecting the use of the SSPPU, but for each of these reasons, Dr. Putnam fails to provide any factual or analytical basis to support his statements. (*Id.*)

The SSPPU is the smallest component that purportedly embodies the asserted patented technology, which here is the baseband chipset. Evolved identified the baseband chipset as the appropriate royalty base in negotiations with at least some of Defendants prior to filing suit. Ex. R (Evolved Wireless, LLC presentation Prepared for Apple, February 4, 2015, EVOLVED 0588696 – EVOLVED-0588734) at EVOLVED-0588727. Evolved also drafted a declaration that it asked Qualcomm to sign that reflected Evolved’s understanding that the LTE specifications for which Evolved has claimed the patents-in-suit are essential are “performed” or “implemented” in Qualcomm modem source code installed on the Qualcomm baseband chipsets. Dr. Putnam ignores Evolved’s own admissions, however, and rejects using the baseband chipset, the SSPPU, as the starting point for his “top-down” approach. The Federal Circuit has repeatedly held “[t]he essential requirement” for reliability under *Daubert* “is that the ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product.” *Ericsson*, 773 F.3d at 1226. Indeed, it has instructed that district courts must exercise their “gatekeeping authority to ensure that only theories comporting with settled principles of apportionment were allowed to reach the jury.” *VirnetX*, 767 F.3d at 1328. Dr. Putnam’s failure to focus his analysis on the SSPPU as a starting point plainly violates the

basic tenets of apportionment, and thus his “top-down” approach, which depends in its entirety from his failure to properly apportion, should be excluded. *Id.*; *LaserDynamics*, 694 F.3d at 67.

**D. Dr. Putnam’s “Top-Down” Approach Is Not a Model that Can Begin with Anything Other than the SSPPU.**

Dr. Putnam points out that the Federal Circuit has approved of a model that does not begin with the SSPPU, but Dr. Putnam rejects that methodology as well. In *CSIRO*, the Federal Circuit explained that the SSPPU need not be used where the analysis instead “begins with rates from comparable licenses and then ‘account[s] for differences in the technologies and economic circumstances of the contracting parties.’” 809 F.3d at 1303 (*quoting Finjan*, 626 F.3d at 1211). This is not, however, the method that Dr. Putnam employs. His “top-down” approach does not give any consideration whatsoever to rates in comparable licenses, let alone begin with rates from any comparable licenses. In fact, with respect to Apple, for instance, Dr. Putnam claims that there are no comparable licenses. Ex. Q at 57:21-23. Instead, Dr. Putnam starts with the entire accused device and attempts to apportion down from there. This approach is improper as a matter of law.

**E. Dr. Putnam’s Royalty Calculation Does Not Separate the Value of the ’373 and ’236 Patent Features from the Value Added by the Standard’s Adoption of these Patented Features.**

When dealing with SEPs, there is an additional apportionment issue that arises. As the Federal Circuit set forth in *Ericsson*, not only must the patented feature be apportioned from all of the unpatented features reflected in the standard, but the royalty must be premised on the value of the patented feature, not any value added by the standard’s adoption of the patented technology. *Ericsson*, 773 F.3d at 1232. This is necessary to ensure that the royalty award is based on the incremental value that the patented invention adds to the product, not any value added by the standardization of that technology. *Id.* As the *Ericsson* court explained, this



additional apportionment required for SEPs reflects that “[w]hen a technology is incorporated into a standard, it is typically chosen from among different options. Once incorporated and widely adopted, that technology is not always used because it is the best or the only option; it is used because its use is necessary to comply with the standard. In other words, widespread adoption of standard essential technology is not entirely indicative of the added usefulness of an innovation over the prior art.” *Id.* Consequently, “the royalty for SEPs should reflect the approximate value of that technological contribution, not the value of its widespread adoption due to standardization.” *Id.*

While Dr. Putnam acknowledges the Federal Circuit guidance in *Ericsson*, what he calls apportionment of the value of LTE within a handset and calibration of that value to the patents-in-suit does not determine the value of the patents-in-suit *apart* from the value of the LTE standard. Instead, by purportedly determining the value of the LTE standard and from that share for the patents-in-suit of the supposed LTE value, Dr. Putnam claims as the proper value for the patents-in-suit an amount expressly tied to his calculated value of the LTE standard.

As the courts in *Innovatio* and *Microsoft* explained, the contribution of patents providing technology included in a standard is better understood, and isolated from the value of the standard itself, by a comparison to alternatives, both *ex ante* and *ex post*. Judge Holderman in *Innovatio* focused on the hypothetical negotiation between the parties to arrive at the conclusion that the presence of alternatives that could have been adopted into the standard should be considered:

The relevance of possible alternatives to the hypothetical negotiation is obvious, as the presence of equally effective alternatives to the patented technology that could have been adopted into the standard will drive down the royalty that the patent holder could reasonably demand. The reason is that if the patent holder demands a royalty that is too high, the standard-

setting body will simply adopt the other alternative for a lower price. The court will therefore consider the presence of alternatives that could have been adopted into the standard as it evaluates the Innovatio patents' contribution to the 802.11 standard.

*In re Innovatio IP Ventures, LLC Patent Litig.*, No. 11 C 9308, 2013 WL 5593609 at \*20 (N.D. Ill. Oct. 3, 2013). Judge Robart in *Microsoft* did the same: “the parties to a hypothetical negotiation under a RAND commitment would consider alternatives that could have been written into the standard instead of the patented technology. The focus is on the period before the standard was adopted and implemented (i.e., *ex ante*).” *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823, 2013 U.S. Dist. LEXIS 60233, at \* 61 (W.D. Wash. Apr. 25, 2013). Evaluating advantages of a technology compared to available alternatives is a common factor used to assessing the value of a technology as compared to the value added by simply its adoption into the LTE standard.

Dr. Putnam, however, specifically rejects this “incremental value model.” Ex. A ¶135. Instead, Dr. Putnam uses an alleged “LTE premium,” which he claims shows the value that “consumers themselves place on LTE technology, *taken as a whole*, in relation to the ‘next-best alternative,’ which is (in this case) 3G technology (either W-CDMA, or CDMA2000).” Ex. A ¶ 146 (emphasis added). By comparing LTE as a whole to 3G rather than comparing the patents-in-suit to possible alternatives for features within LTE, this “LTE premium” analysis fails to account for the incremental value of the patented features of the ’373 and ’236 patents. Instead, as described in Section I, *supra*, the only patent-specific information Dr. Putnam used in his methodology was the citation counts for the ’373 and ’236 patents, which has nothing to do with any incremental value or benefit those patents may provide to LTE. By his own admission, Dr. Putnam’s analysis looks at the LTE standard as a whole, without separating out the value of a technology purely as a result of its incorporation into the standard.

Dr. Putnam's approach closely parallels that which the court in *Innovatio* considered and rejected. For instance, *Innovatio* argued for the use of the selling price of the end products as a starting point, with adjustment for the value of the end product attributable to the standard-related functionality. Judge Holderman rejected *Innovatio*'s approach, stating that it "did not credibly apportion the value of the end products down to the patented features," in favor of the use of the chip implementing the standard as the royalty base. *Innovatio*, 2013 WL 5593609, at \*21-22. For this same reason, Dr. Putnam's "top-down" approach must be excluded.

### **III. DR. PUTNAM'S 50-50 SPLIT IS AN ARBITRARY RULE OF THUMB.**

Courts consistently reject "rule of thumb" type calculations in determining reasonable royalties, and exclude expert testimony where it fails to "tie proof of damages to the claimed inventions footprint in the market place." *Uniloc*, 632 F.3d at 1317. One such "rule of thumb" type calculation is the Nash Bargaining Solution, a mathematical theorem that suggests a "surplus must be divided evenly by agents pursuing their own interests" in negotiations. Ex. A ¶ 167 n.158. The Federal Circuit has held "invocations of the Nash theorem without [an expert] sufficiently establishing that the premises of the theorem actually apply to the facts of the case at hand" should be rejected. *VirnetX*, 767 F.3d at 1332 (rejecting the 50/50 split of profits on the basis of the Nash Bargaining Solution where the application of the 50/50 split was insufficiently tied to the facts of the case). In particular, an expert must explain "what situations in the real world fit [the] premises" that were applied to arrive at the result. *Id.*

For example, Judge Andrews in this District has interpreted these "sort of facts [to be] analogous to facts usually used in reasonable royalty analyses[.]" such as the parties' licensing history. *Robocast Inc. v. Microsoft Corp.*, No. 10-1055-RGA, 2014 U.S. Dist. LEXIS 10745, at \*9 (D. Del. Jan. 29, 2014) (holding relevant facts to mean "if [the defendant] had a

history of licensing similar technology for a 50/50 split of the profits, or [the plaintiff] had a history of licensing the [asserted patent] for half of the profits, those would be the sort of facts that would provide a basis for [applying the Nash bargaining theorem].”

In this case, Dr. Putnam applies the Nash theorem to divide the alleged “LTE premium” equally between “innovators” (owners of declared standard-essential patents), and implementers (handset manufacturers, but not handset vendors that bundle with other services).<sup>4</sup> Ex. A at ¶¶ 163-166; Ex. S (Putnam HTC Tr.) 65:8-67:19. In support, Dr. Putnam explained that

the “facts of the case” that are relevant to the hypothetical negotiation between the parties *do not* concern the bargaining power of the individual parties, but the the [sic] ‘fair,’ ‘reasonable’ and ‘non-discriminatory’ division of the surplus, which is a division *not* made by the individual parties, but by the larger forces of technology supply and demand, as those forces are tempered by the ETSI IPR Policy, at the industry level.

Ex. A ¶ 166 n.157. Dr. Putnam also allegedly relies on general “experimental economic studies of bargaining” performed in 1991 (Ex. A ¶ 167), which do not take into consideration the facts of any of these cases against Defendants.<sup>5</sup> Dr. Putnam also claims that the 50/50 baseline split applies in this case Defendants fall into both categories of “innovators” and “implementers,” as they both own patents declared essential to LTE, and manufacture handsets—as do a large percentage of SEP owners. But Dr. Putnam provides no factual evidence, or even any reasoning, as to why that suggests a 50/50 split as opposed to any other potential division. Dr. Putnam has not pointed to a single fact in any of these six cases, or a license agreement involved any

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<sup>4</sup> Dr. Putnam admitted that he determined the LTE royalty using “retail prices” (or the prices the customer pays to the phone distributor), which “[b]y definition,” “include retail markup over the manufacturer or wholesale price.” Ex. S at 43:9-21. When splitting up the “LTE premium,” however, Dr. Putnam leaves out the distributor of the phone.

<sup>5</sup> Dr. Putnam identifies additional “facts of the case” he allegedly applied, but fails to mention such facts are unrelated to his decision to split equally the “LTE premium” between innovators and implementers. Instead the facts were only applied in determining the “LTE premium” itself. Ex. A ¶ 166 n.157.

Defendant, that suggests or supports his 50/50 split of the “LTE premium.” Accordingly, Dr. Putnam’s opinion relying on the 50/50 LTE premium split should be excluded. *See Robocast*, 2014 U.S. Dist. LEXIS 10745, at \*9; *VirnetX*, 767 F.3d at 1333.

### **CONCLUSION**

Each of the flaws discussed above independently renders Dr. Putnam’s testimony unreliable and unfit to be heard by the jury. The Court should grant Defendants’ motion and exclude Dr. Putnam’s damages testimony in its entirety.

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